In the far west, both in Yukon and in British Columbia, gold was the first attraction. The history of Yukon mining is summarised since the first report of gold there by Whymper in 1869. There is reference to the Klondyke boom in 1897–8, and the subsequent decline of the field. Lode mining there is still unimportant. Five dredges are at present mining the alluvial deposits, but they cannot work economically in frozen ground, which has to be thawed by the play of steam upon it.

In British Columbia gold mining began with the Fraser river rush of 1858, followed by twenty years of placer mining. Since 1887 lode mining has made steady progress; the gold is generally associated with copper, silver, or silver lead, and these ores have usually to be smelted. The most famous mining centre is Rossland, which includes some large copper deposits in which the unoxidised ore rises to the surface, and, according to Mr. Brock's account, some of these ores have been deposited parallel to the present land surface. The ores at Rossland occur in fissure veins in sheared and shattered belts, and as irregular impregnations of the country rock. The veins, such as that at Le Roi, the chief Rossland mine, are usually well defined. The ores are low-grade and their concentration is difficult, as the chalcopyrite which contains so much of the gold readily flows away in water.

Of the mines worked primarily for copper, the gold being obtained as a by-product, the most important in British Columbia is the Britannia Mine on Howe Sound, which consists of a mineralised belt of country up to 600 feet wide and two miles in length. Most of this rock contains only 0·5 per cent. of copper, and the ore of commercial value, containing an average of 1¾ per cent. of copper, occurs in large patches scattered through the mineralised belt.

The iron ores of British Columbia have hitherto been little used, but the Puget Sound Mine on Texada Island, a contact deposit between granite and limestone, and replacing both rocks along their junction, has been smelted with bog iron ores in San Francisco. The Glen Iron Mine, situated on the Canadian Pacific Railway, is worked to supply flux to the British Columbian smelters.

The most sensational story in recent Canadian mining history is that of cobalt, which was discovered by accident in 1903, and is famous for its narrow, rich veins of silver. They are found traversing ancient quartzites and conglomerates that have been intruded by diabase.

The Sudbury field is of great commercial, historical, and theoretical interest; it gives Canada the control of the world's nickel market, and has been the subject of a long controversy as to the origin of its ores. They are claimed by some authorities such as Prof. Coleman to be due to direct segregation from a molten rock, a norite gabbro; whereas other authors, relying on the microscopic structure and sequence of the minerals, claim that the ores were deposited long after the consolidation of the adjacent igneous rocks.

The volume contains a short account of Dr. Haanel's fruitful experiments at Sault Sainte Marie on the electric smelting of iron, and its maps give impressive evidence of the vast extent of the coalfields of western Canada, as well as of the widespread and varied mineral wealth of the Dominion.

A MONUMENT TO LATIMER CLARK.

Catalogue of the Wheeler Gift of Books, Pamphlets, and Periodicals in the Library of the American Institute of Electrical Engineers. Edited by W. D. Weaver. With Introduction, Descriptive and Critical Notes by Dr. Potomian. Vol. i., pp. viii + 504; vol. ii., pp. 475. (New York: American Institute of Electrical Engineers, 1909.)

ALL who knew Mr. Latimer Clark will feel the most lively satisfaction that his cherished and invaluable library of books ancient and modern relating to electricity should have found the resting-place and custodian which kind fate and American generosity have provided. The position is best expressed by the following three quotations from the book under review:—

"It was Mr. Clark's wish that this valuable collection of his should eventually be transferred to the United States, inasmuch as London was already in permanent possession of the Library of Sir Francis Ronalds. Failing an American purchaser, it was to go to Japan, 'a rising country which would greatly value such a unique collection.' Thus wrote Mr. Clark to Mr. P. Fleury Mottclay, of New York, on February 21, 1898, eight months before his death."

"My object in securing the collection was to present the books to our Institute and make it the custodian of the most complete electrical library in the world, as well as to stimulate such interest that the Institute may in time own a permanent home in New York."

"This work is due to the generosity of Mr. Andrew Carnegie, who donated a fund to house, catalogue, and complete the celebrated Latimer Clark collection of books, pamphlets, and periodicals presented to the library of the American Institute of Electrical Engineers by Dr. Schuyler Skaats Wheeler."

Given an unrivalled collection and a free hand, it is not every librarian or every professor of physics who could, in preparing what is called a catalogue, have produced what is in reality also a delightful book, which will afford the book-lover some of the inspiration and charm which the library itself alone can provide in full. The books are numbered in chronological order, the earliest being Vincentius (1190–1264). The system is to give a copy of the material on the title-page, with some account of the nature of the contents of the book. Where this is of exceptional importance, a facsimile of the frontispiece, title-page, or of some page or pages from the text, and of some illustrations is given also. On turning over the pages, the reader not altogether devoid of historical interest cannot fail to be attracted by these glimpses of the work of long ago, and to be driven to seek in the library itself the continuation of accounts of investigations to which the end of a page sets a disappointing limit. Among the facsimiles is the historic letter, a typical example of the official *non possumus* attitude not even unknown at the present day, dated August 5, 1816, from the secretary of the Admiralty to Mr. (afterwards Sir) Francis Ronalds, F.R.S., relative to the electric telegraph.

> "Mr. Barrow presents his compliments to Mr. Ronalds, and acquaints him with reference to his note of the 3rd inst. that telegraphs of any kind are now wholly unnecessary; and that no other than the one now in use will be adopted."

This was a semaphore!

The two volumes contain 5966 entries, and they are completed by a name-index.

The American Institute of Electrical Engineers is to be congratulated upon its possession of so valuable a library, the contents of which have been brought home to them in so pleasing and sympathetic a manner.

C. V. BOYS.

COMPARATIVE ANATOMY OF ANIMALS.

An Introduction to the Study of the Comparative Anatomy of Animals. By Prof. Gilbert C. Bourne. Vol. i. Second edition, revised. Pp. xvi+299. (London: George Bell and Sons, 1909.) Price 6*s*.

PROF. BOURNE says rightly that there is a considerable difference of opinion as to the limits of elementary teaching in comparative anatomy, which he defines as "the science which treats of the architecture of animals." The second edition of his well-known and interesting text-book will be welcomed by all serious students of animal biology, for it is with animal biology rather than pure anatomy that it deals. This is necessarily the case, for anatomy and physiology must ever go hand in hand.

The position of biology in the University curriculum is at the present time a very critical one, especially in the case of medical students, for whom this work is expressly intended. The enormous increase in our knowledge of the detailed structure of all the commoner forms of animal life which has taken place during the last few years makes it more and more difficult to select the materials for a first year's course. The introduction of too large a number of types necessitates superficial treatment, while, on the other hand, the too detailed study of only a few types leaves the student without time to follow even the main steps in the evolution of the animal kingdom. He cannot see the wood for the trees. The chief value of the study of comparative anatomy and physiology for the medical student lies in the fact that they help him in the end to understand the structure and functions of the human body, but there is very much in the minute structure of the lower animals which is not necessary for this purpose, and we fear that the insistence upon what many regard as superfluous detail has done much in late years to discourage the study of zoology, not only amongst medical students, but also amongst others who doubt their ability to digest and assimilate (especially for examination purposes) the immense mass of intellectual food set before them. Fortunately so much detail, however interesting in itself, is not really necessary for the comprehension of the great principles of the subject.

Prof. Bourne's view is, as he tells us in his preface, that the more elementary the teaching the fuller it should be, and this view finds full expression in the volume before us, which, we venture to think, is likely to appeal to the advanced perhaps even more than to the elementary student. Protozoa are fashionable at the present day, but it is, perhaps, a pity that Prof. Bourne did not follow what he tells us was his original intention, and omit some of the types with which he deals so fully. Actinosphærium, at any rate, has very slight claims to inclusion in an elementary text-book. On the other hand, a cordial welcome may be extended to Copromonas, a very valuable new type, of which an admirable account is given, based upon the work of Mr. Dobell.

A few inaccuracies in phraseology might with advantage be attended to in future editions, *e.g.* "smell and taste are localised patches of end organs" (p. 9), but these are minor blemishes which detract but little from the thoroughness with which the author has carried out his extremely useful work.

MODERN MIRACLES.

The Faith and Works of Christian Science. By the writer of "Confessio Medici." Pp. xi+242. (London: Macmillan and Co., Ltd., 1909.) Price 3*s*. 6*d*. net.

THE cult, if it may be so termed, of Christian science has taken considerable hold on a section of the community here and elsewhere, and we welcome this book by the author of "Confessio Medici" exposing its fallacies, inconsistencies, and dangers. No one, perhaps, could do this in a more genial manner, but the whole forms a scathing indictment indeed.

In the introductory pages the author tries with more or less success to put into plain words the contrast between philosophy and Christian science. He then arranges in the form of articles some of the tenets of Christian science taken from Mrs. Eddy's writings, discusses life and Christian science, the reality of disease and the reality of pain, and gives a brief survey of Mrs. Eddy's remarkable career. Next, and most important, the record of the testimonies of healing by Christian science is critically examined. Two hundred recent cases (April–August, 1908) are analysed; the author has taken the trouble to write to many of the patients for additional information, and a more inadequate and unconvincing series could hardly be imagined. This one is healed of "kidney and liver trouble," that one of "stomach trouble," a third of "fever," a fourth of "colds and eruptive fever," and so on. The details are of the scantiest, and, in most instances, the diagnosis is the patient's own. The author concludes from these evidences

> "that Christian science accepts all testimonials, even the most fantastic and illiterate. That she embellishes what she publishes. That she evades investigation. That her claim to cure organic disease